



Key Considerations from Primer

The program must play an essential role to report on this measure. An essential role is one that would be described by stakeholders and partners as essential for the project's ultimate success.

When a program has a non-essential role, describe the the project's impacts or accomplishments in narrative form for the annual report but do not include these the performance measures and metrics.

- ▶ Not everything needs a number
- ▶ Count what you can count
- ▶ Sometimes a story is best
- ▶ If it's too complicated, report it as an Impact or Accomplishment
- ▶ Do not seek out nor shy away from large numbers. Larger benefits are ok but should be reviewed with added rigor
- ▶ Do not use multipliers
- ▶ Include citations in reporting to enhance clarity, defensibility, and transparency.

Aquaculture Revenue and Cost Savings ¹

Sustainable fisheries and aquaculture is a focus area in Sea Grant's national strategic plan. Sea Grant programs support aquaculture in a variety of ways, including research, extension, and education. This methodology guide specifies an approach for **reporting increased revenue or costs savings** associated with aquaculture-related work. Examples might include 1) researching or developing best practices to improve decision-making; 2) helping research, development, and technology transfer; or 3) directly working with, collaborating with, or training companies to improve their production or efficiency. For aquaculture-related work that supports/ enhances or creates jobs or businesses, please see the "Job and Business Support and Creation" methodology guide for more information. For Sea Grant activities that result in job support or creation as well as increased revenue or cost savings, use both methodology guides.

Examples

Here are several slightly modified examples that illustrate increased revenue and costs savings reported to Sea Grant's Planning, Implementation, and Evaluation Resources (PIER)² database. For each example, we provide our thoughts about what the Sea Grant program did well and what could be improved.

- 1 Collaborative efforts increase oyster production:** Collaborative efforts from Sea Grant and many partners have resulted in 393 active oyster aquaculture leases, for a total of over 6,000 acres leased since 2011. These collaborative efforts have increased the skills of commercial watermen and increased the annual harvest of oysters produced by aquaculture. In 2016, aquaculture farmers harvested 63,240 bushels, up from 48,400 bushels in 2015. These were valued at approximately \$50.00 per bushel.
 - ✔ Sea Grant clearly and defensibly described how its actions resulted in increased revenue.
 - ✘ It would be more transparent if Sea Grant more clearly described what collaborative actions it took to increase oyster production. It would also increase defensibility if Sea Grant used a citation for the per-bushel value used.
- 2 Saving businesses money by providing consulting services:** Sea Grant consulted with eight shrimp farms to determine appropriate stocking sizes of post-larval shrimp and the effect on shrimp harvests. Working together, Sea Grant and the farmers drafted a plan that was implemented at all eight shrimp farms. Within one year, the farms realized a total savings of \$56,112 by using the improved post-larval stocking program.
 - ✔ Sea Grant clearly described how it planned, implemented, and saved money and included defensible cost savings. Sea Grant also clearly indicated the scale (number of shrimp farms) of the work.
 - ✘ It would be more transparent to show the calculation behind the \$56,112 savings.

1. This methodology guide was developed to help Sea Grant and other coastal engagement programs calculate and characterize the economic benefits and impacts of their program activities. This methodology guide is a tool and does not constitute official guidance for reporting economic benefits and impacts.

2. Sea Grant programs use PIER to submit their impacts, accomplishments, performance measures, and metrics to the National Sea Grant Office.

3 Saving businesses money through technology transfer: New self-cleaning aquaculture tank technology improves the survival of marine finfish larvae and saves labor costs. The cost savings is the labor gained from using a self-cleaning tank compared to a traditional tank in a realistic hatchery setting. The time saved for using a self-cleaning tank is approximately 30 minutes. The labor cost saved is \$25,200 per tank/per year. A total of seven tanks were sold in 2016.

- ✓ Sea Grant clearly states how the technology leads to an economic impact.
- ✗ Without explaining how Sea Grant contributed to this effort, the program cannot defensibly claim an impact. Sea Grant should document the number of hours and cite the assumed salary per hour that is avoided for tank cleaning.

4 Researching and identifying consumer interests: Sea Grant has had a long-term role in striped bass aquaculture. Sea Grant’s research has helped develop broodstock and national hybrid striped bass industries. It has also identified a growing interest in the domesticated striped bass industry (no hybrid cross). Recent Sea Grant research has focused on limiting the use of hormones in spawning, as well as consumer interest in farmed striped bass. An economic impact of \$5 million reflects 10 percent of the national industry value of \$50 million.

- ✓ Sea Grant clearly states what it did to help the industry.
- ✗ It would be more compelling to clearly link Sea Grant’s research to 10 percent of the national industry value by confirming which regions or companies use this technique or providing other evidence about the scale to which the research is in use.

Present Your Story as a Value Chain

Value chains illustrate the sequence of events or activities that result in an economic impact or benefit. Consider developing a value chain diagram to help you tell a compelling and defensible story about how your Sea Grant program, product, or service generated a measurable result.



Let’s enhance an example from above to illustrate how to create a value chain. Collaborative efforts from Sea Grant and many partners have resulted **in 393 active oyster aquaculture leases** [*what was affected*] for a total of over 6,000 acres leased since 2011. These collaborative efforts have **increased the skills of commercial watermen** [*what was done to get impact*] and the annual harvest of oysters produced by aquaculture. In 2016, aquaculture farmers harvested 63,240 bushels, up from 48,400 bushels in the baseline year of 2015 (**14,840 additional bushels** before Sea Grant assistance) [*measurable change*]. These were valued at approximately \$50.00 per bushel for a total value of **\$742,000 in additional revenue** (i.e., 14,840 additional bushels X \$50 per bushel) [*societal economic impact*].





Recommended Methodology and Best Practices

Sea Grant programs provide cost savings and increased revenue for many types of aquaculture-related activities. The overall approach is to calculate the dollar change in revenue or cost savings by comparing data from a baseline year before Sea Grant assistance to 1) data from the year after Sea Grant assistance or 2) data from the year the impact takes place if there is a lag between Sea Grant assistance and impacts (see table in the “Factors to Consider in Communicating Benefits” section for how long you can continue to report economic benefits to PIER and in outreach). Here are some important best practices and data needs:

- **Best practice:** Craft your story as a value chain to defensibly link your program or activity to a measurable change. A story is stronger when you can show changes to entities that Sea Grant directly worked with, rather than when you describe how Sea Grant influenced an overall, regional change that may have other confounding factors.
- **Best practice:** Read the table in “Factors to Consider in Communicating Benefits” below to understand when it is appropriate to continue to count the benefit beyond the first year.
- **Data need:** Do your best to find data from a “baseline year” that is as representative as possible of what the situation was before impacts occurred from Sea Grant assistance. To capture cost savings or revenue increases, you may need to capture data such as:
 - Level of effort before Sea Grant assistance multiplied by a relevant hourly wage from the U.S. Bureau of Labor Statistics’ [Occupational Employment Statistics program](#) to estimate a baseline cost;
 - Cost to implement before Sea Grant assistance (to help estimate cost savings);
 - Industry or company production and sale price to estimate revenue; or
 - Company or industry revenue before Sea Grant assistance.
- **Data need:** Focus on the **increased revenue** or **cost savings** that occur after Sea Grant involvement compared to your baseline year—ensure that you justify key assumptions and provide proper citations.

Factors to Consider in Communicating Benefits

You should consider the following differences when reporting your economic impact or benefit to Sea Grant's PIER database versus communicating its value in other outreach pieces (e.g., fact sheets, websites, impact statements, accomplishment statements).

	Economic Benefits Reporting in PIER	Calculation for Other Outreach
Recurring Benefits	<p>Year 1: Report the savings or revenue.</p> <p>Year 2 and beyond: Only count the annual savings or revenue if you are providing active assistance for implementing a practice, using the technology, or otherwise improving revenue or cost savings.</p>	<p>Year 1: Count the savings or revenue (same as box to left).</p> <p>Year 2 and beyond:</p> <ul style="list-style-type: none"> • Technology transfer: Count as long as you can confirm the technology is still in place or until someone could argue the technology implementation has become commonplace (and would have been adopted anyway, or better technology has now replaced that technology). • Best practices or research to improve decision-making: Count as long as you can confirm the impact is still occurring or until someone could argue the practice would have been implemented without Sea Grant's contribution. • Extension work: Count as long as you are providing active assistance. Count longer if you can confirm the impact is still occurring until someone could argue the practice or outcome would have been implemented without Sea Grant's extension work.
Attribution	<p>Avoid double counting when multiple Sea Grant programs are involved. Multiply the final \$value by the fraction of your level of effort (LOE) divided by total Sea Grant LOE (e.g., you provided 400 hours, Sea Grant program 2 provided 600 hours, and another organization provided 500 hours). Multiply the final \$value by 40% (i.e., your 400 hours / 1,000 total Sea Grant hours [600 + 400]). The other Sea Grant program will multiply by 60%. Together, the two Sea Grant programs are now claiming they were essential contributors to the full \$value (without double counting). Note, the Sea Grant programs are claiming they were an essential contributor to the full value, but not the only contributors to this full value.</p>	<p>There is generally no need to attribute the value of your impact; simply state you played an essential role in a project that provided \$X in savings or revenue—ensure your role is transparent and well-described to tell an effective story. If you need to attribute your LOE for outreach, use your percent LOE as a rough estimate (e.g., Sea Grant contributed 300 hours out of a total 1,000 hours, so it contributed 30 percent).</p>
Very Large Benefits	<p>Do not shy away from nor seek out large numbers; large numbers both get people's attention and cause them to question the methods used. This applies to all benefits or impacts, but for very large benefits or impacts in particular, ensure that you develop a value chain that strongly links your program's action to quantitative results and that you document your assumptions well and cite your sources. For example, in Example 4 of this guide, Sea Grant influenced a \$50 million dollar revenue increase. Sea Grant would need to provide a very strong, compelling link to explain how it influenced 10 percent of this market, as a high number like this might raise eyebrows.</p>	

These guides are reference tools only and do not constitute formal performance measure or reporting guidance.

Please contact oar.sg.info-admin@noaa.gov with any reporting questions.